

Power supply · regulated, 2400 W

Switchmode power supply, PFC, 3-phase

Input: Wide range input AC 340 - 550 V

Output: DC 24 V, 100 A / DC 48 V, 50 A



Range of functions

The new power compact series provides a number of additional adjustment options via function keys. The selected functions are shown on a display. In addition, the current output voltage and current are displayed for normal operation.

Input protection

- Active Surge suppressor and inrush limiter (ASSIL) as protection against overvoltages according to VDE 0160
- PFC error monitoring
- Phase monitoring with automatic reduction of the output power
- Automatic start/restart system for over- and undervoltages

Output protection

- Adjustable current limiting between $0.1 I_N$ and I_N
- Hiccup autoreset based on current limiting or maximum output voltage (150%)

Status display and signal

- In addition to an LED for "DC OK" and error displays, the devices have the following analog outputs 0–10 V and 4–20 mA as direct function of the load current
- Programmable relay contact with the functions
 - Output voltage/current,
 - Overload,
 - Overtemperature

Additional functions

- Temperature-compensated battery charging function
- Display and compensation of the voltage drop for long cables
- Remote On/Off of the output voltage
- DC 12 V auxiliary voltage
- Monitoring and control interface based on RS232 (optional)
- Integrated O-ring diode
- Load sharing in parallel operation
- Load current sharing

Description	Part-No.	Type	PU	
Screw terminal				
Output voltage/current	DC 24 V/100 A	722814	CPSB3-2400-24	1
	DC 48 V/50 A	722816	CPSB3-2400-48	1
Input				
	DC 24 V/100 A		DC 48 V/50 A	
Nominal voltage	3× AC 400–500 V			
Operation voltage range	AC 340 V–550 V/DC 520 V–750 V			
Line frequency	47 – 63 Hz			
Rated current	$U_1 = AC 400 V: 4.5 A / U_1 = AC 500 V: 3.5 A$			
Inrush current	<AC 10 A (active inrush current limitation)			
Internal fuse	–			
External fuse	Automatic: 3 × C 10 A (required)			
Power Factor Correction P.F.C.	>0.92			
Input protection	Surge protection according to VDE 0160, over/undervoltage (auto restart) Phase monitoring (reduced output power): PFC error			
Output				
Rated voltage output	DC 24 V		DC 48 V	
Rated current output	100 A		50 A	
Max. output current	>150 A, 5 s, with $U_{out} > 90\%$		>75 A, 5 s, with $U_{out} > 90\%$	
Short-circuit current	150 A, 5 s		75 A, 5 s	
Voltage trim range	DC 11.5–29 V		DC 23–56 V	
Load regulation	<1 %			
Rise time	< 4.5 S			
Temperature coefficient	–			
Ripple & Noise	<200 mV			
Hold up time	>10 ms (AC 400 V); >10 ms (AC 500 V)			
Status indication DC ON LED green	alphanumeric display			
Status indication DC LOW LED red	alphanumeric display			
Parallel/redundant operation	max. 4 devices			
Efficiency	>92 %			
Low power loss	<200 W			
Over voltage protection	>30 V			
Short circuit characteristics	adjustable: Hiccup, current limiting			
General				
Insulation voltage input/output	AC 3.0 kV _{eff}			
Insulation voltage input / ground	AC 1.5 kV _{eff}			
Insulation voltage output / ground	AC 0.5 kV _{eff}			
Operation temperature range	-20 °C – 60 °C (derating)			
Derating	>45 °C: -40 W/°C			
Storage temperature range	-25 °C – 85 °C			
M.T.B.F.	>500000 h to SN29500 / >150000 h to MIL standard HDBK 217F			
Dimensions (w × h × d) in mm	233.0 × 158.0 × 102.0			
Cooling	Natural air cooling, forced cooling >45 °C, 80 mm distance top/bottom, 10 mm side			
Housing material	Aluminium			
Shock resistance	30 g			
Vibration resistance	5 – 17,8 Hz: ±1,6 mm, 17,8 – 500 Hz: 2 g 2 Hours / Achsen X,Y,Z, IEC 60068-2-6:2007			
Field installation	rail TS 35 (EN 50022)			
Installation position	vertical			
Protection class	IP 20 (IEC529, EN60529)			
IP rating	I (SELV, PELV)			
Overvoltage category	II			
Pollution degree	2			
Weight (kg/piece)	2.800			
Termination	Screw connection: input 0.2–4.0 mm ² /output 0.2–35 mm ² /auxiliary 0.2–1.5 mm ²			
Approvals	Standards: UL 508, IEC 950, EN 60950, EN 55011 CE: EN 61000-4-5, Surge immunity level IV, VDE 0160 CE: EN 61000-4-2/3/4/5/6/11			
Monitoring				
DC ON Control (Rdy)	Relay, N/O contact active, adjustable, DCok: 90–110 % Uset, ACok: acc. input voltage range, overload Overtemperature range, charging complete			
Switching capacity	AC/DC 30 V, 1 A, 30 W			
Insulation voltage	AC 500 V			
Output current	galvanically isolated: 0–10 V and 4–20 mA			
Interface				
User Interface	LCD display 16 × 2 character, multi language, 4 keys (command and navigation)			
Auxiliary voltage output	galvanically isolated DC 12 V, 100 mA			
NTC	Temperature-controlled battery charging (mandatory)			